

## **Instructional Letter**

Number: IL 4020.00

/s/ Brian Ziegler

Acting Assistant Secretary  
Environmental and Engineering Service Center

Effective Date: July 15, 1999

Expires: July 15, 2000

### **Endangered Species Act (ESA) §7(d) Project List and Stormwater Effects Guidance**

#### **I. Introduction**

##### **A. Purpose**

The purpose of this Instructional Letter is to communicate the implementation of the ESA §7(d) Project List and to provide interim guidance on making *effect determinations* for biological assessments that are prepared for the National Marine Fisheries Service.

##### **B. Background**

The references listed at II, below, are the regulations that govern the processes by which the Washington State Department of Transportation (WSDOT) addresses the need to protect endangered species while still delivering a successful highway construction program.

The stormwater effects guidance presented at V, below, has been developed through cooperative negotiations among WSDOT, the FHWA, and the NMFS. The USFWS does not agree with some of the ESA stormwater effects guidance.

##### **C. Scope and term of this Instructional Letter**

This guidance is for projects that: (1) increase impervious surface area; (2) clear, grade, or fill (erosion control); or (3) have spill potential. It will be added to the *Highway Runoff Manual* before this IL expires.

## **II. References**

### **A. Federal**

16 USC 1531 Endangered Species Act of 1973, as amended  
50 CFR 402 Interagency Cooperation Regulations

### **B. State**

WAC 220-110-206  
*Highway Runoff Manual*, M 31-16, WSDOT

## **III. Acronyms**

BA	biological assessment - written documentation of a BE prepared for consultation with other agencies.
BE	biological evaluation - an evaluation done by a project biologist to determine the effects of the project on listed species. The BE might lead to a biological assessment if necessary.
BMP	Best Management Practice
DPS	Distinct Population Segment (the USFWS's designation for bull trout listings)
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit (the NMFS designation for salmon listings)
FHWA	Federal Highway Administration
HPA	Hydraulic Project Approval
HRM	<i>Highway Runoff Manual</i>
LWD	large woody debris
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
SPCC	Spill Prevention Control and Countermeasure plan
SSP	Stormwater Site Plan
TESC	Temporary Erosion and Sedimentation Control plan
USFWS	United States Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation

#### IV. ESA §7(d) Project List

The *effect determinations* are used in the Endangered Species Act §7(d) consultations described in the letter from WSDOT to FHWA that is attached as an appendix to this IL. The letter had, as an attachment, a list of projects for which ESA §7(d) allows the projects to proceed to bid and award even if the consultation has not yet produced concurrence on the biological assessment. Projects that are eligible to be on the list are those with an effect determination of “may affect, not likely to adversely affect.”

If a project is on the ESA §7(d) list and is likely to result in *take*<sup>1</sup>, an Incidental Take Authorization Permit is required as part of the project’s consultation before conducting the action that might result in take. Projects with potential for take on salmonids include in-water work, channel relocation, or impacts to riparian habitat. Activities that might constitute take include: constructing barriers that eliminate or impede access to habitat; removing or contaminating plants, fish, or biota; discharging pollutants into a listed species’ habitat; removing or changing physical structures; removing or changing water flow; constructing on unstable hill slopes; and using toxic substances where release is likely to significantly degrade habitat. Consult a regional biologist if there are questions.

The ESA §7(d) list is available from Paul Wagner of the Environmental Affairs Office (EAO) at (360) 705-7406 or through the EAO Biology Projects home page. It is not attached to this IL because it can be amended at any time. At the time of transmittal to FHWA, the list included only the eligible projects planned for advertisement for construction during the summer of 1999.

#### V. ESA Stormwater Effects Guidance for Projects

##### A. General

Until changes are made to the *Highway Runoff Manual*, use the guidance in this IL and the HRM or other local ordinances (if they are more stringent) to design the stormwater treatment system. This document covers specific project activities only. This document does not cover all the possible project elements that must be analyzed by the project biologist before a final effect determination, based upon all the project’s activities, is

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<sup>1</sup> *Take* is defined under ESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct,” including modification to a species habitat. Point of take is the place or the area where take occurs. A point could be:

- 1) Discharge point such as a stormwater culvert or a bridge pier or footing.
- 2) A project.
- 3) A specific habitat where take is likely to occur.

The habitat area could be a spawning bed, a rearing area, or changes in the hydraulic characteristics of a stream system.

made. Effect determinations must be project specific and this guidance might not fit in every case. The final effect determination for the project is based on all of the effects documented in the Biological Assessment (BA).

## **B. Procedures**

Evaluate each project for its location; for the effects due to stormwater, clearing, grading, and filling; and for the effects of all project elements on the base line indicators before making a final project-specific *effect determination*.

### **1. No Effect**

Projects located within a Water Resource Inventory Area with no habitat or potential habitat for listed fish species will have no effect on listed fish species and require no further evaluation.

#### **Stormwater from new impervious surface areas has no effect when:**

- a. Infiltrated with pretreatment for all new impervious surface areas.

or

- b. The stormwater is treated for quality and quantity for 140% of the new impervious surface area within the project limits.

This is based on the assumption that postproject net pollutant loading will not exceed the preproject loading. Since stormwater BMPs are not 100% efficient (see Figure 1), some amount of preexisting impervious surface area will have to be treated to attain more than a no-net-increase in pollutant loading. The treatment level has been established at 140% of the new impervious surface area to make up for the fact that the BMP's are not 100% efficient.

Example:

A project adds 10 acres of new impervious surface area that will be 100% treated. How much impervious surface area stormwater will the project have to treat to attain a "no effects" determination?

Answer:  $140\% \times (10 \text{ acres}) = 14.0 \text{ acres}$ , which is the 10 new acres plus 4 acres of the existing untreated surface area.

**Clearing, grading, and filling has no effect when:**

The project is within an ESU/DPS and clears, grades, and grubs more than 300 ft from any waterbody, provided that the following conditions are met:

- TESC and SSP is fully implemented (including spill control).
- “Environmental base line” is not degraded, including spawning areas (determined by the BE), LWD, riparian habitat, etc.

**2. May Affect, Not Likely to Adversely Affect**

**Stormwater from new impervious surface area**

Stormwater from new impervious surface areas may affect but is not likely to adversely affect listed fish species and their habitat when the stormwater is treated for quality and quantity for 100% to 140% of the new impervious surface area within the project limits.

[The USFWS does not agree with this. NMFS is concerned that the detention ponds and other BMP’s might not be sized large enough because the *Highway Runoff Manual* is based on outdated rainfall data. Section 2-5 of the *Highway Runoff Manual* includes a chart that addresses the current safety margin included in the pond’s size. This section will be revised to increase the safety margin at a later date. In addition, a study is underway to update the rainfall data.]

**Clearing, grading, and filling**

The project is within ESU/DPS and clears, grades, and grubs within 300 ft of any waterbody (which supports or drains into a listed fish supporting waterbody) but completes no in-water work, provided that all of the following conditions are met:

- TESC and SSP is fully implemented (including spill control).
- “Environmental base line” is not degraded, including spawning areas (determined by BE & BA), LWD, riparian habitat, etc.
- All other factors evaluated for the project by the project biologist result in a no effect or may affect, not likely to adversely affect determination. This must include an analysis of direct and indirect effects of the action.

A direct and indirect effect analysis, which covers the action area, must be included. The action area is defined as all areas to be affected directly or indirectly by the federal action and not

merely the immediate area involved in the action. Thus, if it is a bridge replacement, address the upstream and downstream impacts, bank impacts, construction easement impacts, the road approach impacts, temporary bridge impacts, impacts caused by the detour route, etc.

Not all projects will be able to meet the above. Some might fall into the “may affect, likely to adversely affect” determination.

### **Projects that work within water**

Projects that work within water may affect but are not likely to adversely affect listed fish species if all of the following conditions are met:

- Work must be conducted within fish window (WAC 220-110-206 list or according to HPA).
- Work must occur in a nonspawning or rearing area (as determined by project biologist in conjunction with WDFW Habitat Biologist or Tribal Biologist or other Fisheries Biologist) Rearing areas include pools, eddies, structures, etc. but do not include glides.
- The project doesn’t degrade the environmental base line.

### **3. May Affect, Likely to Adversely Affect**

#### **Projects that work within water**

When a project works within water, and the project does not meet the “not likely to adversely affect” category for in-stream work, it “will result in an adverse effect to listed fish.”

#### **Stormwater from new impervious surface area**

When the project is within a subbasin that provides habitat or potential habitat for a listed fish species, stormwater from new impervious surface areas may affect and is likely to adversely affect listed fish species and their habitat when the stormwater is treated for quality and quantity for less than 100% of the new impervious surface area within the project limits.

#### **Clearing, grading, and filling**

A project may affect and is likely to adversely affect listed fish species and their habitat when it is within ESU/DPS and does not fully implement TESC or SSP (including spill control) and is within a subbasin that provides potential habitat for listed fish species.

**4. Beneficial Effect**

A project will have a beneficial effect on listed fish species and their habitat if the stormwater is treated for quality and quantity for more than 140% of the new impervious surface area within the project limits.

**5. Detention Facilities Safety Factor**

On an interim basis, the factor of safety for sizing detention ponds and vaults shall be increased by 10% in ESU and DPS areas.

Figure 2 represents the formulae for both within and outside ESU and DPS areas.

**6. Reevaluation of the List of Rivers Excepted**

Revisions to the excepted rivers list are underway and will be available in a revised version of the *Highway Runoff Manual*. Interim guidance on exempted rivers is awaiting NMFS' approval.

**7. Practicability of Retrofitting Existing Roadways**

The 140% mitigation ratio for yielding a "no effect" determination for a specific project is not intended as a design objective. NPDES requirements, as reflected in Section 2.5 of the *Highway Runoff Manual*, mandate the current design objective: "BMPs for existing impervious runoff will be implemented whenever the investigation demonstrates that it would be more feasible to construct BMPs during the current project instead of waiting until a future date to fully retrofit the entire roadway section." Practicability analysis is being developed by a consultant and will be available by January, 2000.

**VI. Appendix**

The appendix is the letter from WSDOT to FHWA regarding ESA §7(d) consultations for projects being advertised through the summer of 1999. Attachments B and C are omitted from the appendix. See IV, above, regarding attachment B. Attachment C is presented in full at V, above.

**Alternate Formats:** Persons with disabilities may request this information be prepared and supplied in alternate forms by calling collect (360) 664-9009. Deaf and hearing impaired people may call 1-800-838-6388 (TTY relay service).

**Figure 1**  
**WSDOT Highway Runoff Manual**  
**Best Management Practice Effectiveness Rates**

BMP	Information Source	MEDIAN REMOVAL RATE (%)				
		Total Suspended Solids	N	P	Lead	Zinc
Biofiltration Swale	FHWA	<b>70</b>	25	30	70	70
	WPT	<b>81</b>	38	29	67	71
	NTIS	<b>60</b>	10	20	70	60
	King Co. SWM	<b>77</b>	25	33	66	---
Wet Pond	FHWA	<b>90</b>	48	65	---	---
	WPT	<b>67</b>	24	48	73	51
	NTIS	<b>60</b>	35	45	75	60
Vegetated Filter Strip	FHWA	<b>70</b>	30	40	70	70
	WPT	<b>81</b>	38	29	67	71
	NTIS	<b>85</b>	---	90	---	85
	WSDOT	<b>83</b>	---	---	---	---
Extended (nutrient control) wet pond	FHWA	<b>79</b>	34	46	66	66
	WPT	<b>60</b>	42	58	73	51
Wet vaults/tanks	FHWA	<b>30</b>	<10	<10	<10	<10
	NTIS	<b>15</b>	5	5	15	5

Averaging all the pollutant removal effectiveness data for wet ponds and bioswales, which constitute ~90% of HRM BMPs constructed by WSDOT, yields a mean 72% (5/7) effectiveness ratio. Assuming that pollutant loadings from new and preexisting impervious surface areas are identical, the area of preexisting impervious surface area for which to provide treatment to yield no-net-increase in pollutant loading becomes (1 minus 5/7) divided by 5/7 = 2/5 = 0.4.

References:

FHWA - *Evaluation and Management of Highway Runoff Water Quality*, FHWA Publication No. FHWA-PD-96-032, June 1996.



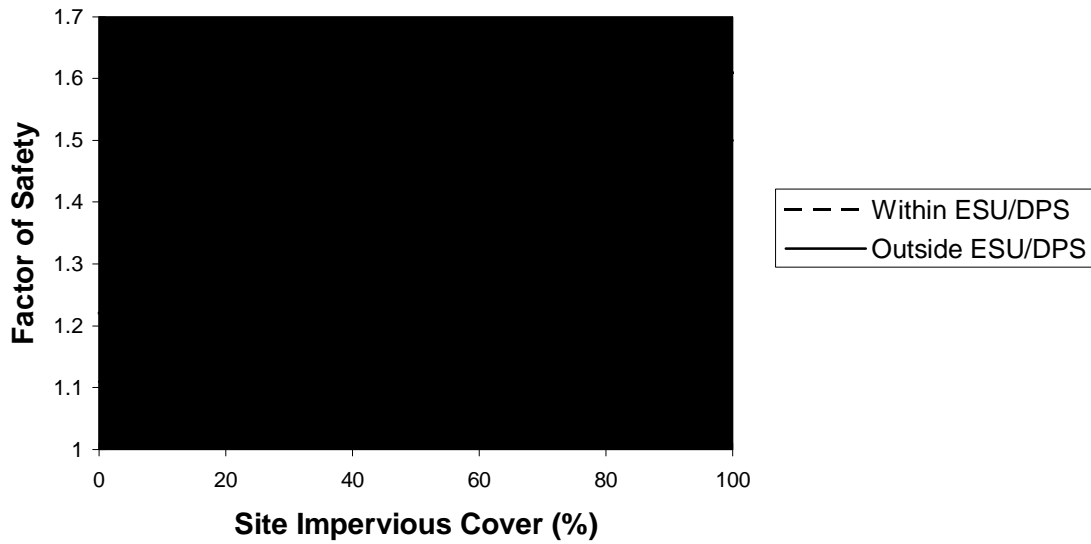
NTIS - *Evaluation of Highway Runoff Pollution Control Devices*, U. S. Department of Commerce/National Technical Information Service, Publication Number PB97-138481, December 1996.

King Co. SWM - *Evaluation of Water Quality Ponds and Swales in the Issaquah/East Lake Sammamish Basins*, Final Report for Task 5 of Centennial Grant Agreement No. TAX90096, October 1995.

WPT - *Comparative Pollutant Removal Capability of Urban BMPs: A Reanalysis*, Watershed Protection Techniques, Vol. 2, No. 4, June 1997.

WSDOT - *Performance Evaluation of Vegetative Filter Strips and Safety Slopes as Water Quality BMPs*, unpublished ongoing research conducted by Dr. David Yonge, WSU - College of Civil and Environmental Engineering.

**Figure 2**  
**Safety Factors for Detention**



Within the ESU/DPS area:

Factor of Safety is 1.22 plus (0.0039 times the Site Impervious Cover in %).

Outside the ESU/DPS area:

Factor of Safety is 1.11 plus (0.0039 times the Site Impervious Cover in %)

## Appendix

May 17, 1999

Mr. Gene Fong  
Division Administrator  
Federal Highways Administration  
711 South Capitol Way Suite 501  
Olympia, Washington 98501-0943

Dear Mr. Fong:

The purpose of this letter is to communicate to the Federal Highway Administration (FHWA), Washington Department of Transportation's (WSDOT) commitment to continuing the consultation process under Section 7 of the Endangered Species Act (ESA). This letter submits a strategy for bringing the consultations to closure consistent with the provisions of Section 7(d) of the ESA. This Section 7(d) coverage will apply to future projects, including TransAid [Highways and Local Programs] projects, planned for advertisement for construction during summer 1999 and may be used until programmatic approaches are fully implemented.

During recent discussions with FHWA, National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS), and WSDOT, we have been developing approaches to provide predictability for transportation project delivery while meeting the agency responsibilities of the ESA. The listed Evolutionarily Significant Units to which this discussion applies are provided in Enclosure A.

FHWA has recognized WSDOT as FHWA's nonfederal representative for ESA informal consultation. WSDOT has been working to develop programmatic Biological Assessments (BAs) for Section 7 consultations as part of the long-term solution. We also recognize that the current workload at NMFS and the many demands for participation in various aspects of salmon recovery planning, present an extreme challenge to complete Section 7 consultations within ordinary timelines.

At the same time, we now have numerous transportation projects that, if they are to be started during this summer's construction season, the vast majority will need to be advertised within the next month. Many of these projects have BAs that have previously been submitted to NMFS and are proceeding with formal or informal consultation. Others will have BAs submitted to NMFS in the very near future. Based on our analysis and

discussions with NMFS, we are confident that these projects will not jeopardize the continued existence of listed species. To meet project delivery commitments, we will need to proceed with some project activities before Section 7 consultation is complete.

These projects will avoid jeopardy to the continued existence of federally listed species, avoid “take” wherever practicable, and minimize “take” to the greatest extent possible.

The environmental permitting and design process for WSDOT projects involves careful consideration of means to avoid and minimize potential impacts to aquatic systems. Consistent with Section 7(d) of the ESA, proceeding with these projects does not constitute an irreversible or irretrievable commitment of resources that would foreclose the formulation or implementation of any reasonable and prudent alternatives.

These projects are organized into two categories: Paver/Safety and Individual Projects. Both are covered under the 7(d) letter and have been submitted as Enclosure B. Additional projects and categories may be added as an addendum.

### **Paver/ Safety Projects**

(WSDOT category P1/I2). These projects involve paving and minor safety improvements. WSDOT has been working closely with NMFS to evaluate potential project effects from these actions, and to develop conservation measures, so that any potential effects will remain insignificant and discountable. We have determined that these projects may affect, but are not likely to adversely affect, listed salmonids. Some of these projects are addressed by project specific BAs, now in informal consultation. The remainder of these projects have been batched as a group into a single BA, also for informal consultation.

### **Individual Transportation Projects**

These projects cover a range of federally funded transportation activities and currently involve formal or informal consultation with NMFS on an individual basis.

We recognize that addressing the potential effects of stormwater runoff constitutes a significant area of focus for impact assessment. This has been the subject of several recent meetings between WSDOT and NMFS. Guidance on “effect” determinations, appropriate conservation measures, and Reasonable and Prudent Measures and Alternatives (RPAs) are now being developed collaboratively with WSDOT and NMFS (Enclosure C). This is consistent with the use of the best available scientific and commercial information as prescribed in the ESA. To avoid jeopardy to listed species, projects involving formal consultation might need to include RPAs as outlined in the ESA. These will be examined through continued consultation and will include Best Management Practices (BMPs) from the WSDOT *Highway Runoff Manual*, the Draft Programmatic BA, and the ESA Stormwater Effects Guidance.

Many of these previously prepared project BAs have not addressed potential stormwater effects according to the newly developed guidance. These BAs will be supplemented per the NMFS approved ESA Stormwater Effects Guidance. Additional post-project commitments may be used as needed to address stormwater impacts so that WSDOT will ensure that these projects will not jeopardize the continued existence of listed salmon species or adversely modify designated critical habitat. WSDOT will apply ESA

Stormwater Effects Guidance to all projects statewide. WSDOT will use the *Highway Runoff Manual* for practicability analysis and for evaluation of RPAs for projects involved in formal consultation. The *Highway Runoff Manual* will be used for projects in Puget Sound Basin and NPDES Municipal Stormwater Permit Areas.

**WSDOT proposes the following strategy for continued consultation:**

1. During the consultation process, conservation measures will be identified to reduce effects on salmonids to the point of being insignificant and discountable wherever possible. Our intent is to keep projects in the realm of informal consultation wherever possible. WSDOT will identify the range of potential conservation measures for 7(d) projects, including stormwater measures, for continued consultation (Enclosure D). WSDOT will use best available science, and commercially available data, consistent with the ESA. WSDOT will evaluate all conservation measures and RPAs for practicability based on watershed benefits and critical environmental needs. We will seek solutions that are cost effective and provide meaningful benefits to fish habitat.
2. WSDOT will use the ESA Stormwater Effects Guidance as a point of reference in continuing the consultations. Our objective is to avoid degradation of environmental base line conditions to the maximum extent practicable. For those projects that are going forward as provided under Section 7(d) prior to the conclusion of consultation, WSDOT will also conduct, where there is an opportunity, a practicability analysis for further actions that will improve base line conditions.
3. Any base line improvements will be considered as beneficial effects. A range of environmental management tools, including watershed based decision making, will be used. Salmon recovery actions will be supported primarily by nonproject activities and project contributions will be tracked.
4. Should any formal consultation determine that a project has a potential for jeopardy, or adverse modification of designated critical habitat, we will work with FHWA and NMFS to identify and use RPAs to avoid these outcomes. Consistent with the ESA, any RPAs must be “consistent with the purpose of the action and within the Federal Agency’s legal authority and jurisdiction that are economically and technologically feasible.” These activities must also be consistent with WSDOT’s legal authority.

Proceeding with projects while consultation is continuing could result in modifications to projects underway. These modifications can be developed while projects are going to ad, bid, and initial construction. Changes during the advertisement period would require contract addenda. Minor to moderate project changes can be implemented via change orders. If specific work items are foreseeable, it would be possible to include bid items to be used at the state’s discretion. More significant project changes may require a post-project commitment action or inclusion in subsequent project phases.

**ACTIONS TO IMPLEMENT 7(d) FOLLOWUP:**

### **1. Modify Construction Processes**

- a. WSDOT will accelerate compliance auditing and training to ensure implementation of the erosion and spill control specifications. For projects with sensitive habitat issues, WSDOT will increase inspection based on stream proximity, size of project, and BA issues.

### **2. Modify Design Processes**

- a. WSDOT projects will have a specification requiring a Temporary Erosion and Sediment Control plan (TESC) and a Spill Prevention, Control, and Countermeasures plan (SPCC) where applicable.
- b. All “off the shelf” projects will be reevaluated to assess practicability of modifications to meet current design standards relative to ESA. This analysis will be summarized in the project BA.
- c. WSDOT will amend the ESA Stormwater Effects Guidance as best available science and practicable alternatives evolve to reflect stream specific capacities and needs.
- d. To gain efficiencies WSDOT will seek opportunities, where practicable, to facilitate the design of stormwater treatment facilities and to construct and operate joint agency/jurisdictional stormwater treatment and handling facilities, in lieu of project-by-project solutions.
- e. WSDOT will develop and implement a methodology to define practicability for treating existing pavement as used in the *Highway Runoff Manual*.

### **3. Environmental Base Line Improvements**

- a. WSDOT will identify and document the net effects of alternative mitigation and enhancement projects to identify credits to be used in continued consultations. Enhancements will be considered where beneficial and practicable from an environmental, engineering, and investment perspective. An outcome of alternative mitigation can lead to improved base line by increasing environmental benefits by off-site actions. WSDOT will develop, track, and map contributions from projects and programs that support environmental base line improvements. WSDOT will consider documenting past enhancements in subbasins.
- b. WSDOT will continue its programs for the enhancement of salmon recovery, including fish barrier removal programs, stormwater retrofit, and grant programs for both state and local roadways.
- c. WSDOT will work with local and county government to determine appropriate conservation measures to help characterize and improve stream base line conditions.
- d. WSDOT will seek efficiencies through partnerships in meeting post-project actions and in bringing consultations to closure. WSDOT will help identify the needs of individual projects and consider conservation measures that can bring consultations on a group of projects within a basin to closure.

### **4. Coordinate with Other Agencies**

- a. WSDOT will hold a stormwater summit to initiate dialogue on stormwater issues and standards in late summer 1999. Resource agencies, the Governor's Salmon Team, and local state officials will discuss approximate and reasonable levels of stormwater treatment needed to protect salmon. The summit will be the statewide effort to reconcile stormwater management and ESA implementation.
- b. As a follow-up to the stormwater summit, WSDOT will conduct four regional, county specific stormwater workshops throughout the state during the late summer and early fall 1999.
- c. Watershed based workshops will be held as needed to coordinate with cities and counties that utilize the 7(d) letter coverage for TransAid [Highways and Local Programs] funded projects.
- d. WSDOT will fund ten state and federal resource agency staff to deliver state and local environmental responsibilities relating to transportation. The work plans for these staff will include support for consultation closure under the 7(d) letter.

## **5. Funding**

- a. A proviso has been inserted in the WSDOT 99-01 budget acknowledging potential funding reallocations that might be needed to accommodate ESA procedural and substantive issues.
- b. WSDOT will utilize existing evaluation processes to review and proceed with cost changes to address project changes and ensure delivery of post-project commitments.
- c. Local agencies who elect to take advantage of this process will be subject to normal operating processes for cost changes.
- d. The 99-01 WSDOT ESA operations budget will fund the continued development of mapping, data management, policy development, and compliance strategies to ensure ESA programmatic compliance and contribute to the recovery of the salmon.
- e. WSDOT's 99-01 budget includes: fish passage barrier and stormwater retrofits and a capitalized Advanced Environmental Mitigation Revolving Account. These program activities will help support the state's salmon recovery efforts.

## **6. Seek Closure on Actions**

- a. As conservation measures are identified through the consultation process, WSDOT will develop a timeline for design and construction to be completed. It is anticipated that most will be accommodated with existing resources through processes as identified in 5 (b) of this letter and accomplished in the 99-01 biennium. For remaining commitments, WSDOT will develop designs, budgets, and schedules by June 30, 2001 for the implementation of conservation measures.
- b. WSDOT will develop, implement, and provide to FHWA, procedures to track 7(d) commitments.

In closing, WSDOT believes the commitments and actions enumerated in this letter meets our responsibilities for Section 7 coordination under ESA. We recognize this approach to ESA consultation as an interim measure to be used, as FHWA, NMFS, and WSDOT work together to develop and implement programmatic approaches to Section 7 consultation. We believe the 7(d) approach provides FHWA a way to meet your federal agency responsibilities, and allows WSDOT the opportunity for successful program delivery using a combination of environmental initiatives to aid in the recovery of salmon.

Should you have further questions please contact Jerry Alb, Director, Environmental Services at (360) 705-7480. Your support of this approach through a letter of concurrence is requested.

Sincerely,

Sid Morrison  
Secretary of Transportation

SM:kg

Enclosures

- A. Listed Salmon Species in Washington
- B. List of Transportation Projects
- C. ESA Stormwater Effects Guidance
- D. Proposed Conservation Measures



**Enclosure A**  
**ESA STATUS - WASHINGTON STATE ANADROMOUS SALMONIDS - A**

Species	(E=endangered, T=threatened, Date is for FF		
	Listed	Proposed	
<b>Coho</b> ( <i>Oncorhynchus kisutch</i> )	None	None	1) Puget Sound 2) SW
<b>Steelhead</b> ( <i>O. mykiss</i> )	1) Upper Col. R. (E - 8/97) 2) Snake R. (T - 8/97) 3) Lower Col. R. (T - 3/98) 4) Middle Col. R. (T - 3/99)	None	
<b>Chum</b> ( <i>O. keta</i> )	1) Hood Canal Summer (T - 3/99) 2) Columbia River (T - 3/99)	None	
<b>Chinook</b> ( <i>O. tshawytscha</i> )	1) Snake R. fall (T - 4/92) 2) Snake R. spg/smmr (T - 4/92) 3) Upper Col. R. Spring (E - 3/99) 4) Puget Sound (T - 3/99) 5) Lower Col. R. (T - 3/99)	None	
<b>Sockeye</b> ( <i>O. nerka</i> )	1) Snake R. (E - 11/91) 2) Ozette Lake (T - 3/99)	None	
<b>Pink</b> ( <i>O. gorbuscha</i> )	None	None	
<b>Sea-run Cutthroat</b> ( <i>O. clarki clarki</i> )	None	1) SW Wash/Col River (T - 4/99)	

NOTE: Listing rules announced on May 24-25, 1999 will become effective 60 days after Federal Register publishing.



## **Enclosure D**

### **PROPOSED CONSERVATION MEASURES**

**Proposed conservation measures may include but are not limited to:**

- Treating stormwater to achieve the no effects level per the matrix. Through the continued consultation there will be a review of the stormwater component of the BA to determine if there is 100% effectiveness treatment of new pavement. This means infiltration or 140% treatment via detention of new impervious surface per current approved HRM or local approved standard. This no effect level represents the maximum treatment provided through a post project commitment. A sliding scale of treatment will be based on a practicability analysis that assesses factors such as: stormwater as the priority limiting factor, location in the sub-basin and habitat concerns, as well as cost effective engineering constraints. This analysis will lead to providing stormwater treatment or alternatives that improve base line conditions (as mentioned below).
- Implement Ecology revisions to the Puget Sound Stormwater Technical Design Manual regarding implementation of redevelopment via Practicability analysis.
- Retrofit Stormwater Outfalls.
- Complete or support a drainage analysis to prioritize fish habitat needs, if one has not been done or update the stormwater site plan. This work could be done independently or in support of local watershed characterization efforts.
- Provide treatment upstream.
- Support regional stormwater treatment facilities.
- Support research to establish functional fish habitat equivalent stormwater treatment such as riparian zone preservation.
- Implement priority watershed action items.
- Install in-stream structures.
- Stabilize banks.
- Revegetate banks.
- Preserve or restore the Riparian zone.

- Support local fish recovery plans.
- Support watershed research.

**Continued consultation and the choice of conservation measures will be further influenced by the following:**

1. Better understanding of base line criteria.
2. Relative contribution of quantity/quality input relative to basin size and nature of salmon habitat (existing base line).
3. Relative level of investment and projected redevelopment in the subbasin.
4. Watershed analysis for quantity, quality, and fish enhancement priority projects.
5. Ability to provide in kind or alternative conservation measures.
6. Additional engineering needed to assess practicability (e.g., right of way availability, safety of chosen BMP, subsurface utilities, future transportation plans in corridor).
7. WSDOT is maintaining an enhancement document which describes all program activities and project specific activity that supports salmon recovery. Conservation measures may be drawn from the activities on this list.

In addition, it is recognized that properly functioning stream parameters are the scientific framework for developing criteria to be used in developing conservation measures and reviewing BAs. As individual consultations occur, and "Best Professional Judgment" is applied, there will evolve a record of decisions that when taken cumulatively, becomes the criteria for review. WSDOT will track the BA reviews and apply adaptive management in the preparation of BAs and conservation measures that are negotiated under the 7(d) letter.